



***MQ* POWER**
MODEL CG500C2
CONTAINER GENERATOR
(CUMMINS QSX15 DIESEL ENGINE)

Revision #0 (11/08/13)

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publication, visit our website at:
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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

PN: EE57425

SPECIFICATIONS

Table 1. Generator Specifications

| | |
|--|--|
| Model | CG500C2 |
| Type | Revolving field, Self-Ventilated, Drip-Proof |
| Armature Connection | WYE Connection |
| No of Poles | 4 |
| Prime Rating | 455 kW (568.75 kVA) |
| Standby Rating | 500 kW (625 kVA) |
| Frequency | 60 Hz |
| Voltage Regulation (no load to full load) | ±0.25% |
| Frequency Regulation (steady state load) | Isochronous |
| Speed | 1800 rpm |
| Power Factor | 0.8 |
| Weight (Generator Only) | 20,440 lbs. (9,271 kg) |
| Weight (Trailer Only) | 6,480 lbs. (2,939 kg) |
| Dimensions including Trailer (LxWxH) | 282 x 96 x 150 in (716 x 244 x 381 cm) |

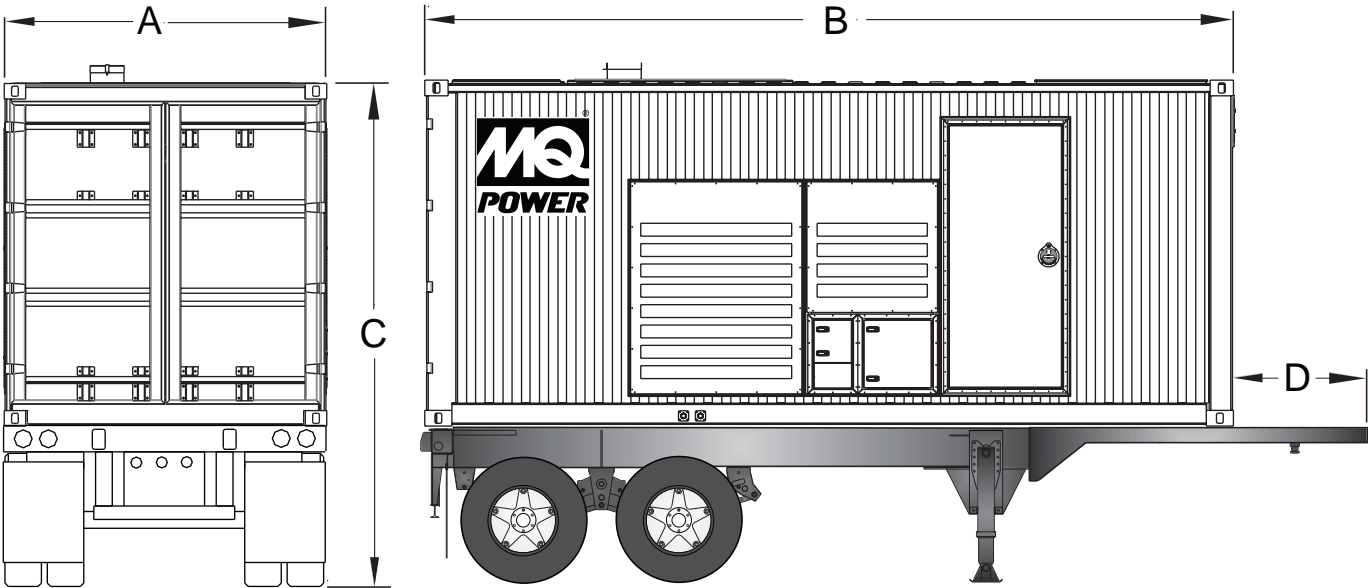
Table 2. Engine Specifications

| | | |
|--|---|--------------------------------------|
| Model | Cummins QSX15-G9 | |
| Emissions | Tier 2 | |
| Type | 4-cycle design, turbocharged, aftercooled, direct injection | |
| Bore x Stroke in (mm) | 5.39 x 6.65 (137 x 169) | |
| Displacement | 912 cu. in. (15 liters) | |
| Max. Power At Rated RPM (without fan) | 755 hp (563 kW) | |
| Compression Ratio | 17 : 1 | |
| Starting | Electric | |
| Coolant Capacity | 53.2 gal. (201 liters) | |
| Lube Oil Capacity | 162.8 qt (154 liters) | |
| Fuel Type | #2 Diesel Fuel | |
| Fuel Tank Capacity | 600 gal. (2,271 liters) | |
| Fuel Consumption (Prime Rating) | 31.1 gal. (117.8 L)/hr at full load | 23.9 gal. (90.5 L)/hr at 3/4 load |
| | 17.2 gal. (65.3 L)/hr at 1/2 load | 9.9 gal. (37.4 L)/hr at 1/4 load |

Table 3. Battery Specifications

| | |
|----------------------------------|-----------------------------------|
| Battery (Top Post) | 12V x 2 (24 VDC System) Group 8D |
| Dimensions HxWxL in. (cm) | 8.5 x 8 x 20 (21.6 x 20.3 x 50.8) |

DIMENSIONS



| Table 4. Dimensions | |
|---------------------|------------------------|
| Reference Letter | Dimensions in. (mm) |
| A | 96 (2,438) |
| B | 238 (6,045) |
| C | 150 (3,810) |
| D | 44 (1,117) |

GENERAL INFORMATION

Generator

The MQ Power Model CG500C2 is a 500 kW containerized diesel with a fully integrated power generation system that provides optimum performance, reliability and versatility for stationary standby and prime power applications.

In keeping with Multiquip's policy of constantly improving its products, the specifications quoted herein are subject to change without prior notice.

Permanent Magnet Generator Excitation System

The CG500C2 generator is equipped with a PMG (Permanent Magnet Generator) which provides enhanced motor starting and fault clearing short-circuit capability.

Engine

This generator is powered by a 4-cycle, turbocharged, air-to-air charge air-cooling Cummins QSX158-G9 diesel engine.

Principle Of Operation

This generator is a brushless, self-excited, externally voltage regulated, synchronous AC generator. The generator is made up of six major components: main stator (armature), main rotor (field), exciter stator (field), exciter rotor (armature), rectifier assembly, and voltage regulator.

The generator's exciter consists of a stationary field and a rotating armature. The stationary field (exciter stator) is designed to be the primary source of the generator's residual magnetism. This residual magnetism allows the exciter rotor (armature) to produce AC voltage even when the exciter stator (field) is not powered. This AC voltage is rectified to DC by the rotating rectifier assembly and fed directly to the main rotor (field). As the generator shaft continues to rotate, the main rotor (field) induces a voltage into the generator's main stator (armature). At rated speed, the main stator's voltage produced by the residual magnetism of the exciter allows the automatic voltage regulator to function.

The regulator provides voltage to the exciter resulting in a build-up of generator terminal voltage. This system of using residual magnetism eliminates the need for a special field flashing circuit in the regulator. After the generator has established the initial residual voltage, the regulator provides a controlled DC field voltage to the exciter stator resulting in a controlled generator terminal voltage.

Control System

The electronic control provides total genset system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, overcurrent protection, output metering, auto-shutdown and fault detection.

Battery

The battery's primary purpose is to provide starting power for the diesel engine starter motor. The battery system is comprised of two 8-D style, 12 VDC, sealed lead acid batteries. The battery is charged by the charging alternator while the engine is engaged.

Fuel Tank

This generator is equipped with a 600 gallon (2,271 liters) UL fuel tank. When refueling, it is recommended to use ASTM-D975/No. 2 diesel fuel.

Interior Lighting

The interior lighting system is comprised of four light fixtures. The lighting system operates from the 24 VDC battery system.

The light fixtures are sealed incandescent bulbs which are activated by two timer switches. Either timer switch can be used to turn on all the interior lights.

The DC lighting system can be used to perform off-line maintenance or assist in setup prior to AC power connection.

Exhaust System

The exhaust system is located above the diesel engine. The exhaust system is comprised of rigid and flexible tubing, a silencer, and a roof-mounted exhaust riser with a rain cap.

Fuel Priming Pump

The generator set is equipped with an electric (24 VDC) fuel priming pump to assist in priming the system for maintenance purposes. The priming pump, bypass valves, and priming switch are located on the right side of the container.

Trailer

The generator is mounted on a 23.5-foot trailer. Contact the manufacturer, Chassis King, directly for information and support at ChassisKing.com or call (727) 585-1500.

Container

The 20-foot ISO container, that houses the generator, is made from sound-attenuated, acoustical fiberglass for extremely quiet operation. It has integral vibration isolators, super critical grade silencer and acoustic insulation. The exterior polyurethane coating system provides long life in extreme operating conditions.

Accessories

- 6-Step Fueling/Personnel Ladder with Hand Rail
- Fire Extinguisher
- Battery Charger

Digital Controller Features

PowerCommand PCC 3201 is an integrated generator set control system providing governing, voltage regulation, engine protection and operator interface.

Functions

- Local and Remote Generator Start
- Automatic and Manual Starting and Stopping
- Engine and Generator Protection
- Digital Voltage Regulation
- ECU Communications via SAE J1939
- 4 Programmable Contact Inputs
- AC Output Metering
- Integrated RS485
- Auto Synchronizing
- Digital Alarm and Status Display

Monitoring:

- Engine RPM
- Engine Run Time
- Generator Voltage
- Generator Current
- Generator Frequency
- Oil Pressure
- Battery Voltage
- Low Fuel Alarm
- Running Hour Meter
- Coolant Temperature
- Generator Under/Over Voltage Alarm/Shutdown
- Generator Under/Over Frequency Alarm/Shutdown
- Over Current Alarm/Shutdown